Section 5
Technology Status

Since the SITE demonstration projects, Star Organics has conducted several bench-scale treatability studies of Soil Rescue on a variety of soils and wastes contaminated with antimony, arsenic, cadmium, chromium, lead, selenium, and thallium. The studies have included testing of Soil Rescue's ability to treat oil refinery wastes contaminated with heavy metals, metal processing waste, soil at a manufacturing facility that was contaminated with lead, and mine tailings (Star Organics 2000).

Remediation of Refinery Waste

Testing was conducted to determine whether Soil Rescue could reduce the leachable concentrations of heavy metals in wastes from oil refining processes, including spent catalyst, accumulations of tank bottom sludges, contaminated soil from oil spills or releases, and miscellaneous oil saturated waste. These wastes were treated with thermal desorption, and the ash material was treated with Soil Rescue to reduce concentrations of leachable heavy metal concentrations to levels lower than the UTS. Soil Rescue also was applied to the waste streams before thermal processing. According to Star Organics, Soil Rescue successfully reduced concentrations of leachable heavy metals in the waste streams to levels lower than the UTS (Star Organics 2000).

Remediation of Metal Processor Waste

Star Organics conducted studies on a waste generated by a metal processing firm that recovers metal from scrap. The primary heavy metal of concern for the waste was lead. Star Organics determined that Soil Rescue could reduce the concentration of leachable lead to meet the UTS.

In Situ Remediation of a Manufacturing Facility

Star Organics conducted several tests on soil contaminated with lead at an abandoned manufacturing site. One test included evaluation of Soil Rescue's ability to reduce the concentration of leachable lead to less than 5.0 mg/L and confirmation of the results through a third-party evaluation of the samples of the soil treated with Soil Rescue. Star Organics claims that Soil Rescue was successful in meeting the project goal and that the results were confirmed through third-party test results.